

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method of constructing, reinforcing or modifying a dental structure comprising contacting said dental structure with dental resin and a multiplicity of layers of triaxial material.
2. The method of Claim 1 wherein said resin is selected from the group consisting of acrylic resin, urethane resin and methyl-methacrylate resin.
3. The method of Claim 1 wherein said resin is Bisphenol-A-glycidyl dimethacrylate.
4. The method of Claim 1 wherein said triaxial material is selected from the group consisting of triaxial braided fabric and triaxial woven fabric.
5. The method of Claim 1 wherein said triaxial material comprises fibers selected from the group consisting of silk, nylon, polyester, polypropylene, aramid, ultra high molecular weight polyethylene, glass, boron, carbon and silicon carbide.
6. The method of Claim 1 wherein said triaxial material comprises aramid fibers.
7. The method of Claim 1 wherein said triaxial material comprises ultra high molecular weight polyethylene fibers.
8. The method of Claim 7 wherein said ultra high molecular weight polyethylene fibers are treated with gas plasma.
9. The method of Claim 8 wherein said ultra high molecular weight polyethylene fibers are treated with cold gas plasma.
10. The method of Claim 1 wherein said dental structure is selected from the group consisting of fillings, periodontal splints, directly bonded endodontic posts, directly bonded endodontic cores, bonded orthodontic retainers, bridges, over-denture structures, composite-resin restorations, and implant retained maxial facial prostheses.

11. The method of Claim 1 further comprising the steps of:
- (a) applying at least two layers of said triaxial material to a resin portion of a dental structure;
 - (b) infusing said triaxial material with resin; and
 - (c) covering at least a portion of said triaxial material with resin.
12. The method of Claim 1 wherein more than one, successive layer of said triaxial material are utilized, each of said successive layers being offset by a desired angle with respect to a preceding layer of triaxial material.
13. A structure comprising a dental structure comprising a multiplicity of layers of a triaxial material.
14. The structure of Claim 13 wherein said triaxial material is selected from the group consisting of triaxial braided fabric and triaxial woven fabric.
15. The structure of Claim 13 wherein said triaxial material comprises fibers selected from the group consisting of silk, nylon, polyester, polypropylene, aramid, ultra high molecular weight polyethylene, glass, boron, carbon and silicon carbide.
16. The structure of Claim 13 wherein said triaxial material comprises aramid fibers.
17. The structure of Claim 13 wherein said triaxial material comprises ultra high molecular weight polyethylene fibers.
18. The structure of Claim 17 wherein said ultra high molecular weight polyethylene fibers are gas plasma-treated ultra high molecular weight polyethylene fibers.
19. The structure of Claim 18 wherein said ultra high molecular weight polyethylene fibers are cold gas plasma-treated ultra high molecular weight polyethylene fibers.
20. The structure of Claim 13 wherein said dental structure is selected from the group consisting of fillings, periodontal splints, directly bonded endodontic posts,

directly bonded endodontic cores, bonded orthodontic retainers, bridges, over-denture structures, composite-resin restorations, and implant retained maxial facial prostheses.

21. The structure of Claim 13 further comprising dental resin.

22. The structure of Claim 21 wherein said dental resin is selected from the group consisting of acrylic resin, urethane resin and methyl-methacrylate resin.

23. The structure of Claim 21 wherein said dental resin is Bisphenol-A-glycidyl dimethacrylate.

24. The structure of Claim 21 wherein said triaxial material is covered with dental resin.

25. The structure of Claim 13 further comprising more than one, successive layer of said triaxial material, each of said successive layers being offset by a desired angle with respect to a preceding layer.

26. The structure of Claim 21 wherein said triaxial material has a refractive index similar to that of said dental resin.